

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
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Charles A. Lowry	:	Group Art Unit:
	:	
Serial No.:	:	Examiner:
	:	
Filed:	:	
	:	
For: LIQUID REFINING DEVICE	:	
	:	

**INFORMATION DISCLOSURE STATEMENT**

Box Response  
NO FEE  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

This Information Disclosure Statement, the accompanying references, and the accompanying Form PTO-1449 are being provided in compliance with the duty of disclosure under 37 C.F.R. §1.56.

In accordance with 37 C.F.R. §1.97, this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possible material information as defined in 37 C.F.R. §1.56 exists.

The comments contained in this Information Disclosure Statement are believed to constitute a concise explanation of the relevance of each listed reference to the invention claimed in the present application. 37 C.F.R. §1.98(a). These comments, however, are not intended to take the place of the examiner's complete consideration of each listed reference.

## REFERENCES

### U.S. Patent Documents

U.S. Patent No.	Inventor	Filing Date	Issue Date
1,718,800	Rea	May 17, 1926	June 25, 1929
2,472,717	Morey	April 26, 1947	June 7, 1949
2,839,196	Schwalge	Aug. 9, 1955	June 17, 1958
3,756,412	Barrow	Dec. 2, 1971	Sept. 4, 1973
4,006,084	Priest	Dec. 26, 1974	Feb. 1, 1977
4,115,201	Malec	Jan. 25, 1976	Sept. 19, 1978
4,189,351	Engel	Nov. 18, 1977	Feb. 19, 1980
4,146,475	Forsland	Dec. 1, 1977	Mar. 27, 1979
4,289,583	Engel	Aug. 20, 1979	Sept. 15, 1981
4,443,334	Shugarman et al.	Sept. 15, 1980	Apr. 17, 1984
4,349,438	Sims	July 8, 1981	Sept. 14, 1982
4,354,946	Warlick et al.	July 22, 1981	Oct. 19, 1982
4,369,110	Picek	Aug. 13, 1981	Jan. 18, 1983
4,717,474	Sims	Feb. 20, 1987	Jan. 5, 1988
4,943,352	Lefebvre et al.	June 6, 1988	July 24, 1990
4,830,745	van der Meulen	Sept. 26, 1988	May 16, 1989
5,198,104	Menyhert	Mar. 12, 1991	Mar. 30, 1993
5,242,034	DePaul	Oct. 17, 1991	Sept. 7, 1993
5,322,596	Arntz	Dec. 30, 1992	June 21, 1994
5,630,956	Lynch	June 20, 1995	May 20, 1997
5,824,211	Lowry	May 3, 1995	Oct. 20, 1998
5,630,912	LeFebvre	Jan. 31, 1996	May 20, 1997
5,776,315	Lowry	Apr. 9, 1997	July 7, 1998

U.S. Patent No. 1,718,800 discloses an oil recirculating system for an internal combustion engine, the oil being recirculated by vacuum from the carburetor and maintained at a relatively high temperature by virtue of the oil reservoir being attached to the engine exhaust manifold. Oil is collected in a distilling chamber adjacent the engine exhaust, the theory being that the raised oil temperature will effect distillation and separation of volatile vapor contaminants in the oil.

U.S. Patent No. 2,472,717 discloses an oil evaporation/purification system wherein oil passing through the filter media is intended to drip down, around and over

parallel horizontal fins where the volatile gasses are evaporated off and permitted to rise to the top of the filter unit and escape through a float-and-valve operated vent. Heat for evaporation is supplied by condensation of evaporation gasses that have been heated indirectly, in liquid form, by a heating tube placed inside the vehicle exhaust pipe.

U.S. Patent No. 2,839,196 discloses a combination oil filter and distillation refiner wherein the vaporizing chamber comprises a number of channels adjacent a separate oil heating unit. Oil is forced upwardly through the heated oil channels and back down the inclined sides of the oil channels.

U.S. Patent No. 3,756,412 discloses a similar arrangement wherein filtered oil is forced upwardly through holes in a heating element, thereafter to be collected and gravity-drained off.

U.S. Patent No. 4,006,084 discloses a similar system having a conical vaporization chamber including a vaporization chamber plate having a plurality of concentric stepped horizontal and vertical tiers. The vaporization chamber is heated by a separate heating element above the chamber.

U.S. Patent No. 4,115,201 discloses a similar system wherein the heating element is attached to the top tier, and oil passes over the heating element in order to effect distillation.

U.S. Patent No. 4,189,351 discloses yet another similar system wherein the evaporation plates include vertically projecting evaporation walls. The heater assembly comprises a section having corresponding downwardly projecting walls that are intended to conduct heat from the separate heating unit to the fins in order to effect distillation.

U.S. Patent No. 4,146,475 discloses yet another similar system having an annular stepped evaporation plate, the evaporation chamber being heated by a separate heating element positioned above the center of the evaporation plate, whereby the

filtered oil is metered and squirted against the heating element in order to effect distillation.

U.S. Patent No. 4,289,583 is a continuation-in-part of U.S. Patent No. 4,189,351, and discloses essentially the same thing.

U.S. Patent No. 4,443,334 discloses yet another similar oil distillation unit having an annular stepped evaporation plate, the evaporation plate being essentially hollow and having a plurality of downwardly depending heat transfer fins. Oil distillation is still effected thin-film evaporation as oil flows down the evaporation plate.

U.S. Patent No. 4,349,438 discloses yet a similar system that includes an oil atomization screen for atomizing the oil in order to improve its effective distillation.

U.S. Patent No. 4,354,946 discloses yet another similar system wherein the evaporation plate comprises an inverted stepped annular plate having the electric heating element therein.

U.S. Patent No. 4,369,110 shows yet another similar system having a stepped annular evaporation plate and separate heating element within the evaporation chamber.

U.S. Patent No. 4,717,474 discloses a similar system that incorporates an atomizing nozzle for improving the efficiency of distillation within the distillation chamber.

U.S. Patent No. 4,943,352 discloses another similar system having a vaporization chamber defined by a plurality of annular upstanding fins that cooperate with downwardly depending annular fins formed in the removable cap of the vaporization chamber, which also includes the separate electrical heating element.

U.S. Patent No. 4,830,745 discloses a similar system having a stepped annular evaporation plate. This device includes a vacuum device for maintaining a negative air pressure within the vaporization chamber for optimization.

U.S. Patent No. 3,198,104 discloses yet a similar device having a horizontal evaporation plate with upstanding, vertical, evaporation fins. Heat is provided by a separate electrical heating element.

U.S. Patent No. 5,242,034 discloses yet another similar system having an evaporation plate that incorporates upstanding, vertical fins and a separate electrical heating element.

U.S. Patent No. 5,322,596 incorporates a different design for an oil evaporation unit, the evaporation chamber having a central hub and bottom wall that are directly heated by an electric heating element.

U.S. Patent No. 5,630,956 includes yet another variation of a thin-film evaporation plate type oil distillation device.

U.S. Patent No. 5,824,211 discloses an oil distillation unit having an evaporating chamber that is heated by the oil itself, as opposed to a separate electrical heating element. The evaporation chamber is in the form of a hollow, cylindrical tube.

U.S. Patent No. 5,630,912 discloses a distillation type oil purifying unit that utilizes a spin on filter, the base of the unit forming the evaporation chamber. Filtered oil from the spin on unit flows down into the base and is distributed across a plurality of concentric vertically extending evaporator plates for distillation evaporation.

U.S. Patent No. 5,776,315 discloses a distillation oil evaporation device wherein the evaporation chamber is heated by the incoming oil, as opposed to a separate electrical heating unit. This device also incorporates a metering system for the incoming oil which is resistant to clogging and is easily serviced.

Because of the differing terminology of the various references, the Examiner is respectfully requested to review each of the cited references to be certain that the Examiner concurs with Applicants' understanding and description of each reference. Applicants offer to supply any additional explanation or discussion of the references which the Examiner feels is necessary or desirable and which is requested.

Respectfully submitted,

*Charles Andrew Lowry*  
Charles Andrew Lowry

Dated: July 19, 2000

ATTY. DOCKET NO.

SERIAL NO.

## LIST OF PRIOR ART CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

FILING DATE

GROUP

10869 U.S. PTO  
09/621408  
07/31/86

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	1,718,800	6/25/29	Rea			
AB	2,472,717	6/7/49	Morey			
AC	2,839,196	6/17/58	Schwalge			
AD	3,756,412	9/4/73	Barrow			
AE	4,006,084	2/11/77	Priest			
AF	4,115,201	9/19/78	Malec			
AG	4,189,351	2/19/80	Engel			
AH	4,146,475	3/27/79	Forsland			
AI	4,289,583	9/15/81	Skag Engel			
AJ	4,443,334	4/17/84	Shagarmen			
AK	4,349,438	9/14/82	Sims			

## FOREIGN PATENT DOCUMENTS

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## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR	472 958	Document Disclosure by Inventor				
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FORM PTO-1449 (Substitute)

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AA	4,354,946	<del>6/15/82</del> 10/19/82	Warlick			
AB	4,369,110	1/18/83	Picek			
AC	4,717,474	1/5/88	Sims			
AD	4,943,352	7/24/90	Lefebvre			
AE	4,830,745	5/16/89	Van Der Meulen			
AF	5,198,104	3/30/92	Menyhert			
AG	5,242,034	9/7/93	DePaul			
AH	5,322,596	6/21/94	Arntz			
AI	5,630,956	5/20/97	Lynch			
AJ	5,824,211	10/20/98	Lowry			
AK	5,630,912	5/20/87	Lefebvre			

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AA	5,776,315	7/7/98	Lowry			
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